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The impact of Behavioral psychology in Individual Investment Decision-Making

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ABSTRACT

The paper provides empirical insights about how Behavioral finance has emerged as a field of study which is relatively new and having its provenance from decision theory. The study concluded that this multidisciplinary research area investigates the issues that impact the decision-making process and explains the irrational nature of individuals, groups and organizations. Behavioral finance tries to address those psychological traps that are confronted while making decisions under uncertainty. The paper opted for an in-depth study using an empirical approach. The data collected and compiled by using researches and studies previously conducted by various scholars, academicians and professionals in the field of behavioral finance. Behavioral finance is an emerging field of study which is relatively new and having its provenance from decision theory. Behavioral finance is a multidisciplinary research area that combines psychology and finance and investigates the issues that impact the decision-making process and explains the irrational nature of individuals, groups and organizations. Behavioral finance tries to address those psychological traps that are confronted while making decisions under uncertainty. The main objective of this study is to explore behavioral determinants influencing individual investor's decision at financial front. The paper tries to extend the knowledge of how heuristics, moods and emotions influence the financial behavior of individuals. In conclusion, the paper will provide future paradigm of behavioral finance.

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1. Introduction

While dealing with various investment options there is one fundamental question people face: what is the best strategy for investing in the financial instruments and also in stock market and to what extent can the past trends in stock prices be used to make forecast of the future prices? It is better to be concentrate on ‘fundamentals’, whatever they are and whatever way they have been measured, or to follow the psychology of the market. Various theories of finance like Markowitz theory and portfolio selection model tried to answer these questions.

The behavior of investors in investments revealed two concepts of finance, one is fundamental analysis and other is non- predictable stochastic process, which is influenced by investor’s psychology. The assumptions of being risk-averse in standard finance are seriously challenged by Friedman and Savage (1948). The Expected Utility Theory (EU), developed by Von Neumann and Morgenstern (1944), has developed the standard framework for valuating risk prospects. Ramsey (1928) was among the first to frame some models for individual’s utility as the concave function of consumption, which may give rise to numerous concave functions. Tversky and Kahneman (1981) found that contrary to the EU theory, people assigned different weights to gains and losses with losses usually attracting more attention compared to gains. This behavior of investor is contrary to the standard finance theories. Kahneman and Tversky(1979) derived the observation that marginal values of both gains and losses decrease with their magnitude. They also derived that people transform individual probabilities directly via a weight function. Harrison and Kreps (1978) argued that some beliefs force agents to buy stocks even though they believe that stocks are already above their “fundamental Value”, as they can manage to find someone who would be willing to buy stocks at a higher price due to emotional and psychological reasons. An important characteristic of any social networking is the “prestige” or status of individuals in the network, which also plays an important role in choosing a security. Two parameters- centrality and betweenness are discussed by Freeman (1977) regarding trade of securities. Sahlins (1972) suggested that reciprocity is responsible for establishing the balance of the relations between two close individuals at times for the ease of return. On the other hand, in discussing weak ties, in view of Sahlins (1972) the reciprocity is more easily controlled by a refusal, or idea that players take more than they give. As argued by Fama(1965), random walk theory involves two separate hypotheses- one that price changes are independent and the other that

price changes conform to some probability distribution. Fama (1965) also noted the markets could be efficient at three levels based on what information was reflected in prices of a stock. Ellsberg (1961) first identified the concept of ambiguity aversion which happens when people prefer to speculate on lotteries with known probabilities of winning rather than those with ambiguous outcome distributions. In this game of incomplete knowledge, agents get the opportunity to earn some profit precisely from some price speculations and different expectations of investors. For their research work Stigler (1961 and 1962) and Akerlof (1970) used the expression “information”, and stick to Hayekian knowledge, because people use knowledge to make decisions, while information represents only one of the ways of acquiring knowledge.

Behavioral finance is akin to the terminology of ‘wet water’ – it is inherently known that the water is wet. This has mostly manifest because it is thought by many that evaluating real world economic behavior without including the findings of psychology is like dealing with quantitative relationships without using readily available techniques of mathematics (Schwartz, 2007). Keynes wrote about the impact of psychology in economics more than forty years ago. Furthermore, Paul Slovic professor of psychology propagated a detailed study of the investment mechanism from a behavioral point of view in 1969. However, in late 1980s that BF began to get acknowledgement among professionals. At that moment, Professors Richard Thaler at the University of Chicago, Robert Shiller at Yale University, Werner de Bondt at the University of Illinois, and Meir Statman and Hershey Shefrin at Santa Clara University, among others, began to propagate research pertinent to Behavioral Finance (Olsen, 1998). These scholars began to explore a host of pragmatic findings that were not persistent with the view that market returns were set in consonance with the Capital Asset Pricing Model and the Efficient Market Hypothesis. Supporters of Traditional Finance regarded these decree as aberrant, and thus called them anomalies. Behavioral Finance main benefaction was to allow a better perceptive of the anomalies present in investors’ behavior by coordinating psychology with finance and psychology. However, it was not prior to Professor Daniel Kahneman of Princeton University was awarded in the year 2002 with Nobel Prize in economic sciences that Behavioral Finance gained propulsion. There upon, it was not prior to researchers initiated to discover pragmatic results that were not persistent with the efficient market theory that Behavioral Finance became popular. Consequently, it is thought that philosophical models in finance should be verified against the experimental testimony, i.e. financial inputs; this entails that financial experts employ more of a bottom up

approach, whereby cognitive and poignant states are taken into consideration. This prospect develops a radically unique and relevant way to explain financial markets and its behavior. Behavioral finance models contend that there are more inherent important determinants in the decision making process, relevant to how we should invest, value resources and accustom for risk. cognitive based conjecture, which derive from individual/collective psychology and decision making analysis, are more revealing and it is thought that a larger variety of determinants introduce distortions and prohibit rational financial decision making from taking place on a cumulative scale. In short, behavioral finance is the study of the impact of psychology on the behavior of economic agents and the subsequent effects of this behavior on financial markets (Sewell, 2007).

2. Review of Literature

As per Coleman (1990) the contribution to behavioral finance, therefore, consists in understanding, by way of scripts, the behavior of the player and market, the investor's relation to other players, the fair behavior and the manner by which an individual stir a financial result in a transaction. The proponents of behavioral finance believe that individuals in investment markets do not always act as rational entities. Arthur (1991, 1992, and 1994) argues that deductive reasoning does not work in making one's expectations, because of the limited capabilities of people's reasoning and logical thinking. The emotions and behavioural biases of the investors lead to systematic errors in the manner in which they process information to take investment decisions as per Pavabutr (2002). Martin Weber (1999) made the observation that, "Behavioural Finance closely amalgamate individual behaviour and market sensation and applied the knowledge taken from both the psychological discipline and financial theory". Behavioural finance defined by Shefrin (1999) as a rapidly expanding field that deals with the clout of psychology on the behaviour of financial practitioner". Within behavioural finance, it is assumed that information structure and the traits of market members such as, their educational background and other demographic characteristics systematically impact individual's behavior and their investment decision. "Modern financial economics from time to time behave with extreme rationality; but, markets do not," as explained by Barber and Odean (2001). Simon (1997) delivered the answers of market inefficiencies stating that "economists must receive new kinds of research training; much of it obtain data about beliefs, attitudes and expectations".

Kahneman and Tversky (1991) contend that value functions of agents are convex for losses and concave for gains, which are motivated with the idea of prospect theory and fact that people overweigh outcomes that are considered certain. Allais (1953) and Thaler (1980) identified an “endowment effect” in the behaviour of investors. It is found by Kahneman et al. (1990 and 1991) that goods that have been lost are highly valued by individuals than when the same goods are under possession. Levine and Pesendorfer (2007) recommend that investors modify their preferences in such a way that they select relationships, especially friendship and a marital relationship, there is a feeling of repeated debt, nevertheless, the effort of determining the debt is gratifying because it tends to bring rewards that may not be immediate but strengthens the process the congenial bonds.

According to McNeil (1974) there is a comprehensive model of the differences between the behaviours of friends and strangers when they are involved in a financial transaction. He also suggests that long-term contracts are distinct for the following:

- a. Specificity
- b. Scope
- c. Flexibility, and
- d. Monitor ability

As per Hirschman (1986), the context of friendship and the situations in which it is involved has not been substantially contemplated in economic models. Baker (1984) found results that “small groups of friendship” who operate in the stock market, influence the volatility of the security in which they transact, as the anomaly of Herd Behavior. Information and overconfidence also plays its role within the group. As indicated by Fry et al. (1983), friends generally prefer to maintain goodwill and harmony between themselves in the long run, rather than getting immediate financial returns in one transaction. Factor of friendship actually plays its role in any form of relationship – in family, work and friends from the same fraternity Kelly (1979) argues that daily interactions include negotiations with friends or colleagues, and in these situations, a mutual interest of both the parties is involved, if not immediate then gradual. Schank and Abelson (197) revealed that the basic of friendship is actually agreement on maintenance of:

- b. Friendship in the future
- c. Independent nature of the relation, and
- d. Link of association in the relation

Morgan and Swayer (1967) oppose that friends can divide a set of reward in equal parts, when they are presented to them in a united manner, in spite of possible irregularities in individual efforts. From the economic point of view, Jensen and Meckling (1976) have described that friendship can exert influence in a typical principal – agent relationship, in which an agent works under conditions of low responsibility and low expectations of financial returns by the principal, and try to obtain significantly greater value for friends as compared to strangers. Granovetter (1974) described that despite the fact that transactions in which individuals take part are directed by the economic concept of utility maximisation, social networks are also involved in many of these transactions in which negotiators adhere to a variety of functional rules of these same networks. On the subject of maintenance of social networks, he opposed the traditional sociological notion by profess that weak links are more effective in maintaining network than strong ties, which are formed by parents and close friends. He also explained that weak ties are important because they function as a connecting link to a greater variety of people, thus widening the circle of influence, information and negotiations. According to him, social networks, besides being inclusive, are random and dynamic. Also Mauss (1969) observed that there is a tendency in “friendship” that individuals work to maintain goodwill and harmony, perpetuating bonds and the voluntary nature of their relationships. Further he elaborated that, friends tend to keep harmony, as finally it relates with the precipitation, that an individual needs another. Akerl of and Kranton (2000) incorporated the identity of people, a person’s sense of self, into their decision making.

Barsky and DeLong (1993) connective the different prospects of people with variation in economic growth rates. Alesina and Fuchs-Schundeln (2007) demonstrated that different economic regimes have huge impact on the preferences of people. One of their findings is that people living under egalitarian reign have much greater inclination towards revamp, government intervention and higher taxes than people living in capitalist economies have. This effect as they argue is especially strong for people of older ages. This means that they are much more risk-averse and lack self-initiative and individual responsibilities. This tendency is also clearly reflected in the choice of stocks they pick and also in the movement of price of stocks. Shefrin and Statman (1995) contemplated that age, education, income and

marital status are factors that affect an investor's preference in choosing a stock. Xiao (1992) and Xiao and Olson (1993) divided household financial assets into three groups and found that age, education, employment status and income were the factors affecting investments in the three groups of assets. Ram Swami et al. (1992) found that income, education and life cycle variables influence financial decisions. Bandgar (1998) also revealed the effect of education on investment decision-making. Soch and Sandhu (2000) studied the perceptions of bank depositors towards the quality circles, customer complaint cell, quality, priority banking, tele-banking and customer meets in private banks. They studied that "Individuals with higher net worth are more likely to participate in the stock market." The study also revealed that investors belonging to higher income groups are more likely to exhibit behavioral bias in their investment decision-making. They are susceptible to make potentially costly mistakes in managing their portfolios, which may lead to insufficient savings. Mitchell and Utkus (2004) and Bentarzi and Thaler (2002) supports the thought. So it is not sufficient to educate investors only about the asset returns, risk and diversification, but it is also essential to make them aware of the pitfalls of investor psychology to warn them against likely errors and enable them to take right decisions. Alevy, Landry, and List (2007), conducted a field experiment of anchoring and found that historical return figures have the potential to be powerful pillars because they can provide pertinent information of future returns. For example, corporates disclose their financials every quarter to provide an anchor to the investor and use historical returns as estimates for their cost of equity capital and return on investments as explained by Graham and Harvey (2001), Brounen de Jong and Koedijk (2004). Welch (2000) surveyed over 200 academic economists for their estimates of the future 30-years equity premium and his questionnaire referred to the widely used Lbbotson Associates return figures. Brewer and Chapman (2002) studied influence of individual variable, which sorts respondents into those who feel that their assessments were affected by the anchor and those who do not. Some other studies have documented the anchoring effect.

Tversky and Kahnman (1986) suggested that the anchoring effect is a comatose or self-moving, cognitive process in which the investors may feel that their assessment is not influenced by the anchor when they actually are. If the stocks picked up by investors do well, the investors take it as a confirmation of their investing ability, but if the stock price falls, they blame some external factor such as general condition of the economy or market as reasons for decline, studied by Bhandari and Deaves (2006). It is also argued about the aspects of overconfidence, the "better-than-average" effect (i.e., people tend to think that they

have higher than middling skills), and deception-of- control (i.e., the tendency to believe that one's personal probability of success is higher than what normal probability would warrant).

Odean (1999) argues of the overconfidence of agents. Odean (1998) again attributes the high volume of trading to the confidence of investors. Keynes (1936) argues that people often do not trust their own knowledge and experiences, for which they rather stick to some outside authority. Contrary to Keynes, Fischhoff et al. (1977) incorporate overconfidence into the basic nature of human behaviour, which leads to overestimation of the accuracy of their own knowledge and abilities in every field, where they have managed some consequent events of success. Tversky (1990) observed that people make overconfident predictions in investment markets. In the context of financial decision-making, confidence has been studied analytically by Barber and Odean (2000) and Stateman et al. (2003). It was also found that men are more overconfident and trade more aggressively, which causes higher transaction costs, and thereupon earn lower (post-transaction returns) return than women. The effect of the age of investors has been studied by many researchers such as Filbeck et al. (2005) which reveal that the percentage of equity holdings in their valise increases with age until retirement and then decreases with age, but in other studies it is examined that risk endurance increases with age when other characteristics (such as flow of income, health status, family status) are controlled. In recent years, the financial world has seen a spectacular increase in the number of women in professional financing positions such as institutional investment positions and securities analysts as studied by Graham et al. (2002). Felton et al. (2005) have presented evidence that such gender differences in investment strategies may be due to a specific subgroup of men (i.e., optimists) which result in different behavioural tendencies. Dwyer and others in 2002 in "Gender aberration in affirm Risk Taking: deposition from Mutual Fund Investors" investigated the relation between the gender of investors to the risk taking as revealed in mutual fund investment decisions. Some other researches also suggested that gender differences in information processing play a significant role in mediating investor perceptions of risk thus persuading the well-documented gender differences in investment strategies. Brynes and David (1999) studied and probed the relationship between risk and gender and concluded that women tend to take lesser risk than men. Olsen and Cox (2001) in the paper "The influence of Gender on the Perception" and "Response to Investment Risk: The Case of qualified Investors" have studied the difference in the perception of male and female investors. Gender differences in overconfidence are highly task dependent as explored by Lungueberg et al. (1994) in his various researches. Researches on gender biases have

revealed that men are inclined to feel more competent than women in financial matters. Estes and Hosseini (1988) found that female investors have lower confidence in their investment decisions even when controlling for backdrop and capacity, and when the expected outcomes of the different investments were equivalent. It is also contend that the relationship between gender and trading activity is due to the greater overconfidence in male. Brynes and Miller in 1999 have studied and investigated the relationship between risk and gender and concluded that women tend to take less risk than men. Powell and Antic in 1997 in paper titled “Gender Differences in Risk Behaviour in Financial-Decision-Making: An Empirical Analysis” explains that women are less return seeking than men irrespective of familiarity and framing, costs or ambiguity. According to Embrey and Fox (1997) in “Gender Differences in Investment Decision-Making Process”, have studied that women are more likely to hold risky assets if expecting an inheritance, employed and holding higher net worth; While men invest in risky assets if they are risk seekers, divorced, older and college educated. From different survey responses Barsky et al. (1997) concluded that women are more risk-averse than men.

Men trade more often than women and thereby reduce their returns more so than do women. The authors found that these differences were most pronounced between single men and single women. Women investors account for more and more of the personal investing as studied by Kover (1999). It is also found that women exhibit greater relative risk aversion in their allocation of wealth into defined contribution pension assets. The increased participation of women in the labour force coupled with the trend towards increased endurance and increasing net worth makes women investors a force that cannot be ignored as studied by Melia (1996). Graham et al. (2004) found that home bias, coupled with the competence effect; play a major role in high trading frequency. Cohn-Urbach and Westerholm (2006) attempted to determine whether the frequency of trading on part of household and institutional investors had an effect on the return they achieved. Arthur (2006) argues, “Economic abettor- banks, investors, firms, continually conform their market ploy, buying decisions, prices and forecast to the situation. These decisions collectively create individual behaviours which cause an aggregate outcome. This behaviour creates pattern; and pattern in turn influences behaviour.” According to Barber and Odean (2000) individuals turn over their common stock investments about 70% annually. Various researches also indicate that personality types explain individual risk tolerance; also Riley and Chow (1992) researched to find the factors that impact the risk tolerance capacity of individual investors.

2.1. Research Objectives

- a. To study the theoretical framework of the genesis of behavioral finance.
- b. To identify various behavioral factors/ variables this may have probable effect on investment decisions.

3. Research Methodology

Major part of the paper is conducted based on a comprehensive study of secondary information through books and articles related to investment strategies and behavioural finance theories. The objectives of the study will be based on qualitative research methods in order to understand the behavioural theories effecting on individuals decision-making processes.

The following sections provide a review of the antiquity of behavioral finance. This overview will serve as a basis for future consideration of behavioral finance and the confrontation to grandeur economic theory. The concerns related with using behavioral finance to identify investor bias are recognized.

3.1. The History of Behavioral Finance

The academic discipline of behavioral finance commenced in 1979 by psychologists Daniel Kahneman and Amos Tversky developprospect theory. Prospect theory introduced a practice for having an acceptanceof how risk impactfinancial decision-making. Amos Tversky and Daniel Kahneman introduced the discipline of behavioral finance through their contribution in the work of studying psychology of risk. Their work in the discipline ofbehavioral economics confronts the basic supposition of rationality, which is intrinsic in the classical economic model of decision-making. Tversky and Kahneman studied three major areas: Risk attitudes, mental accounting, and overconfidence (Litner, 1998). In 2002, Daniel Kahneman who is considered father of behavioural Finance received the Nobel Prize in the field of economics. Richard Thaler was another initial contributor to the discipline of behavioral finance. Richard Thaler, in the 1980s, elongated the scope of behavioral finance by establishing tenacious connections between psychological and economics principles (Lambert, 2006). The area of behavioral finance has developed over the last three decades and it has got lot of support from academics and research institutions.

3.2. The Russell Sage Foundation

One of the biggest adherent's of the field of behavioral finance and also behavioral economics is the Russell Sage Foundation. The Russell Sage Foundation is a non-profit foundation that provides research and development support to academicians and finance professionals. The Russell Sage Foundation started its Behavioral Economics Program in 1986 with the mentioned goal of "strengthening the accuracy and experimental and observational reach of economic theory by blending information from interrelated social science disciplines such as psychology and sociology." The Russell Sage Foundation's Behavioral Economics Program entrenched itself at the junction between economics and cognitive psychology and dedicated the program's supplies to understand how the real-world financial decisions of investors often contravene the rational specifications in economic theory.

3.3. Behavioral determinants Influencing Individual investment decisions

Risk attitudes: While classical economic theory contends that investors are loath to liability, behavioral finance holds that investors display erratic and often inconsistent attitudes towards economic risk. Tversky and Kahneman found that investors have an extricate remark point for risk and will be most conscious to risk when that extricate point is achieved.

Mental accounting: While classical economic theory contends that money is transposable and commutable, behavioral finance holds that money is not completely transposable for most people. Tversky & Kahneman developed the idea of extricate mental accounts to assess why money is not wholly transposable for most people. Mental accounts, an obscured form of accounting, contain economic resources that for private and often incoherent reasons and are not easily shifted.

Overconfidence: While classical economic theory quibble that investors are wise decision makers who use the financial information rationally, behavioral finance holds that investors are supine to overconfidence and biased decisions. Tversky & Kahneman recognized that investors were often overconfident about investment decisions, overrated the chances of financial success, and overrated their financial and economic knowledge.

3.4. Other Behavioral Biases

Anchoring: Inclination to anchor anticipation based on reference points that may not have any importance to the value that is being forecasted.

Availability bias: The disposition to form judgments about the anticipation of an event based mainly on the availability of information that favors a certain findings.

Confirmation bias: Searching of information that braces an investor's confidence while contemn disposition that may be incompatible or contradictory.

Disposition effect: The inclination to possess losing securities too long and to sell gainers too quickly because of loathing to loss.

Framing: The inclination to take into consideration extraneous information at the time determining return prospect for an asset.

Illusion of control: Individuals' inclination to overvalue the control they have over results.

Optimism bias: The propensity of people to trust that they are better than moderate and that catastrophe are more likely to transpire people other than themselves.

Overreaction: Seeing arrangements in random events, such as predicting current trends into the future forever.

Representativeness: An inclination to find affinity among sample unit whose resemblances is only frivolous and represents the whole population.

Investment management companies progressively form behavioral finance teams to assess qualitative factors and concerns affecting the market and investment financial decisions. Behavioral finance funds have become common and lucrative investment vehicles. Investment experts use the concepts and means of behavioral finance to understand the anomalies in the financial markets and explore the anomalies to their benefit. The proposition of behavioral finance can be used in any financial instruments. Behavioral finance conjoins investor decision-making and market operations. Behavioral finance investing can be practiced across investing styles, industry sectors, and stock realm (Stewart, 2006). Despite the validity and

eminence of behavioral finance in academic and corporate sectors, the argument between traditional finance and behavioral finance remains vigorous (Shiller, 2006).

3.5. Using Behavioral Finance to Identify Investor Bias

Financial professionals working to assimilate behavioral finance into their habitude face many challenges. In present there is no accepted finance industry and organizations that recognized methodology to distinguish an individual investor's intellectual biases. In essential, once an investor's behavioral biases have been recognized, these biases during the procedure of deciding about allocation of assets. Most importantly, financial professionals will be asserting by the work of deciding to what extent behavioral finance research is relevant for each investor. Financial experts must decide whether an attempt to change their investor's biased behavior or conform to it. Pompian and Longo (2005) recommend the use of two behavioral finance principles:

- First, financial advisers should conform to biases at high wealth levels and try to correct behavior at lower wealth levels.
- Second, financial advisers should conform to hysterical biases and neutral cognitive biases.

Protocols for assimilating biases in asset allocation decisions will help financial professionals to achieve the following goals: investors naturally behave to readdress the effects of behavioral biases so that they can aptly plan asset allocation and comfortably concede by their asset allocation decisions and build the quantitative specification that will let on the financial professional to thrive and alter the investor biases. Eventually, the pertinence of behavioral finance to individual investors is a susceptible process that would aid from the enactment of finance industry protocols and direction (Pompian & Longo, 2005).

4. Conclusion

Behavioral finance contends that financial decision-making is formed by individual and market psychology. Behavioral finance points the following concerns and inquiry (Taffler, 2002):

- What genesis stock market crisis?
- Why is the stock market so buoyant?
- Why do stock prices appear to stampede to atrocious news?
- Why do CEOs and stakeholders often believe their companies are underrated by the stock market?

The discipline of behavioral finance portrays investors in the following manner: Investors are usually impartial in their financial decision-making; investors are known to be over confident of investment decisions; investors are found to recognize to overrate the chances of their success; and investors are known to overvalue their financial knowledge (Litner, 1998). Behavioral finance performs to develop theoretical intuitiveness about investor behavior and establish a system that conform conjectures of investors' behavior.

The discipline of behavioral finance will likely to evolve in tenacity and sphere; it will likely to continue to provide a strong financial tool. Due to the buoyancy of markets, behavioral finance influential investment is contemplated to be one of many fund a mental investment procedures and approaches in a diversified portfolio (Stewart, 2006). The discipline of behavioral finance is widening to include the discipline of neuro-economics. Neuro economics is a field of study that assimilates neurology, economics, and cognitive psychology to understand how people make various investment choices. Neuro-economics widen behavioral finance by enumerating the variables of the nervous system as a determinant in financial decision-making. At the end, conclusively, the expansion of the behavioral finance area allows for better consideration of the manner in which psychological parameters influence investment fallout and market performance (Shiller, 2006).

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